

Title (en)  
MEMORY DEVICE AND FORMING METHOD

Title (de)  
SPEICHERVORRICHTUNG UND VERFAHREN ZUR HERSTELLUNG

Title (fr)  
DISPOSITIF DE MÉMOIRE ET PROCÉDÉ DE FORMATION

Publication  
**EP 2277174 A2 20110126 (EN)**

Application  
**EP 09751113 A 20090430**

Priority  
• US 2009042236 W 20090430  
• US 12579708 A 20080522

Abstract (en)  
[origin: WO2009142884A2] Some embodiments include memory devices having a wordline, a bitline, a memory element selectively configurable in one of three or more different resistive states, and a diode configured to allow a current to flow from the wordline through the memory element to the bitline responsive to a voltage being applied across the wordline and the bitline and to decrease the current if the voltage is increased or decreased. Some embodiments include memory devices having a wordline, a bitline, memory element selectively configurable in one of two or more different resistive states, a first diode configured to inhibit a first current from flowing from the bitline to the wordline responsive to a first voltage, and a second diode comprising a dielectric material and configured to allow a second current to flow from the wordline to the bitline responsive to a second voltage.

IPC 8 full level  
**G11C 11/56** (2006.01); **G11C 13/00** (2006.01); **H01L 27/24** (2006.01); **H01L 45/00** (2006.01)

CPC (source: EP US)  
**G11C 5/02** (2013.01 - US); **G11C 11/34** (2013.01 - US); **G11C 11/39** (2013.01 - EP US); **G11C 11/4026** (2013.01 - EP US); **G11C 11/5664** (2013.01 - EP US); **G11C 11/5678** (2013.01 - EP US); **G11C 11/5685** (2013.01 - EP US); **G11C 13/0002** (2013.01 - US); **G11C 13/0004** (2013.01 - EP US); **G11C 13/0007** (2013.01 - EP US); **G11C 13/0014** (2013.01 - EP US); **G11C 13/0016** (2013.01 - EP US); **G11C 13/003** (2013.01 - EP US); **H01L 29/6609** (2013.01 - US); **H10B 63/22** (2023.02 - EP US); **H10N 70/00** (2023.02 - EP US); **H10N 70/011** (2023.02 - US); **H10N 70/882** (2023.02 - US); **H10N 70/883** (2023.02 - US); **G11C 2013/009** (2013.01 - EP US); **G11C 2213/72** (2013.01 - EP US); **G11C 2213/74** (2013.01 - EP US); **G11C 2213/76** (2013.01 - EP US); **G11C 2216/08** (2013.01 - EP US)

Cited by  
US8987702B2; US8134194B2; US8487450B2; US8502291B2; US8120951B2; US9466361B2; US10535711B2

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**WO 2009142884 A2 20091126**; **WO 2009142884 A3 20100218**; CN 102037515 A 20110427; CN 102037515 B 20131225; EP 2277174 A2 20110126; EP 2277174 A4 20110601; EP 2277174 B1 20140611; KR 101196052 B1 20121101; KR 20100133020 A 20101220; TW 201003900 A 20100116; TW I420653 B 20131221; US 10535711 B2 20200114; US 2009290412 A1 20091126; US 2012056151 A1 20120308; US 2015036405 A1 20150205; US 2017018598 A1 20170119; US 2018047783 A1 20180215; US 2019280046 A1 20190912; US 8120951 B2 20120221; US 8867267 B2 20141021; US 9466361 B2 20161011; US 9831287 B2 20171128

DOCDB simple family (application)  
**US 2009042236 W 20090430**; CN 200980118151 A 20090430; EP 09751113 A 20090430; KR 20107026077 A 20090430; TW 98115904 A 20090513; US 12579708 A 20080522; US 201113292932 A 20111109; US 201414518810 A 20141020; US 201615277551 A 20160927; US 201715792585 A 20171024; US 201916423484 A 20190528